

ABSTRACT OF THE DISCLOSURE

A cleaning and whitening system for teeth having an electromagnetic radiation emitting toothbrush and a dentifrice with a photosensitive agent is disclosed. The toothbrush has a cleaning surface, such as bristles. The toothbrush is also adapted to direct electromagnetic radiation toward the cleaning surface. The electromagnetic radiation may be monochromatic or polychromatic. Further, the electromagnetic radiation may be substantially free of ultraviolet radiation. Additionally, the electromagnetic radiation may consist essentially of wavelengths within a range of 300 to 750 nanometers. The photosensitive agent is dispersed throughout the dentifrice. The dentifrice transmits the electromagnetic radiation through a varying thickness disposed over a target surface during use of the system. As a result, a significant portion of the photosensitive agent reacts, resulting in whitening stains, removing and/or disclosing undesired substances, and/or foaming. The dentifrice may be clear and may have clear abrasive particles. A method for tuning the cleaning and whitening system for teeth includes formulating the dentifrice with photosensitive agents that react to a range of electromagnetic radiation and providing a toothbrush that emits that electromagnetic radiation range. Another method of tuning the cleaning and whitening system includes designing a toothbrush that emits a range of electromagnetic radiation and formulating a dentifrice with photosensitive agents that react to the electromagnetic radiation range.